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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SINES, BRIAN J

ART UNIT PAPER NUMBER

1743

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/005,529

Applicant(s)

EGGERS, MITCHELL D.

Examiner

Brian J. Sines

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-115 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-75, 77-80, 82-91 and 94-115 is/are rejected.
- 7) ☒ Claim(s) 75, 76, 81, 92 and 93 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

The restriction election requirement has been withdrawn. The pending claims have been rejoined for examination.

### ***Claim Rejections - 35 USC § 102***

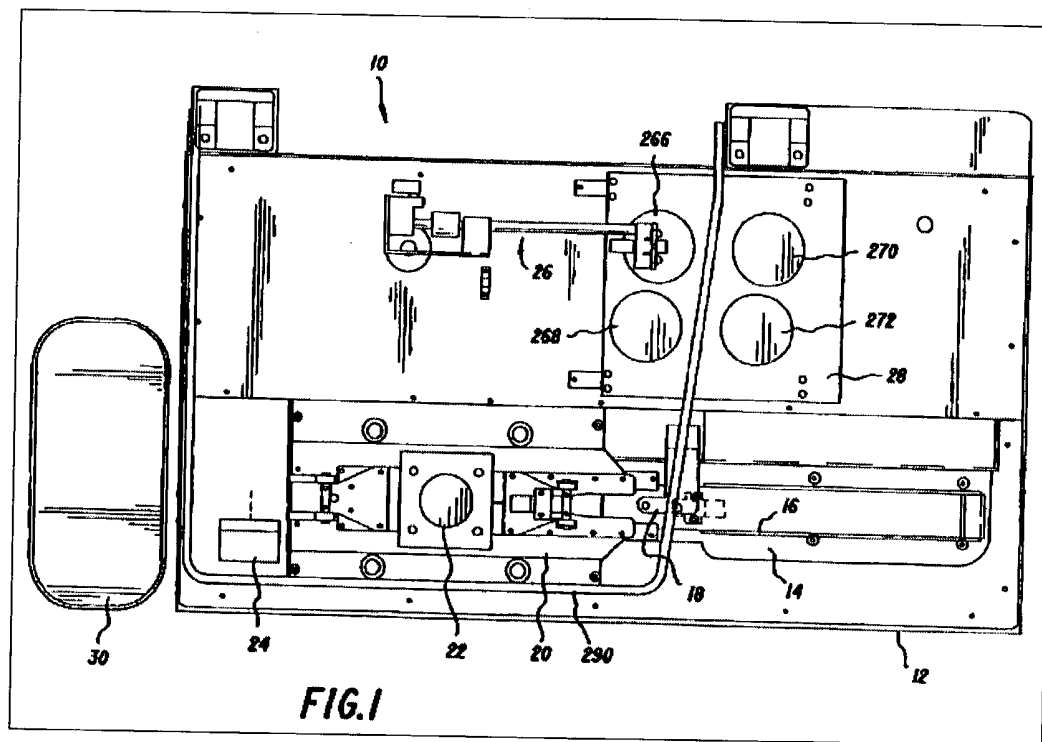
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 3 – 9, 11 – 22, 24 – 28, 63 – 66, 70, 71, 73, 74, 77 – 80, 83, 87, 88, 90, 91, 94, 96 – 99, 101 – 105, 107 and 108 are rejected under 35 U.S.C. 102(b) as being anticipated by Jehan (U.S. Pat. No. 5,800,777 A). Regarding claims 1, 6, 16, 28, 32 and 94, Jehan teaches a sample archive system (10) comprising: a plurality of sample carriers (sample magazine 16) configured to support a plurality of sample nodes (samples 42) in a predetermined spatial relationship; sample storage means (sample magazine receptacle 14) for selectively placing the plurality of sample carriers in an archive; and a sample node removal means (sample acquisition system 18 & transport system 20), which constitutes a robotic means, for locating and removing selected sample nodes (see figure 1; col. 5, lines 25 – 66). The Courts have held that apparatus claims must be structurally distinguishable from the prior art in terms of structure, not function. See *In re Danley*, 120 USPQ 528, 531 (CCPA 1959); and *Hewlett-Packard Co. V. Bausch and Lomb, Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). The Courts have

held that the manner of operating an apparatus does not differentiate an apparatus claim from the prior art, if the prior art apparatus teaches all of the structural limitations of the claim. See *Ex Parte Masham*, 2 USPQ2d 1647 (BPAI 1987) (see MPEP § 2114).



Regarding claims 3, 11, 20, 32 and 96, Jehan teaches the incorporation of a sample node removal means comprising a mechanical clipping tool, such as a sample punch mechanism (22) (see col. 8, lines 40 – 67). Regarding claims 4, 12, 17, 18 and 97, Jehan teaches the incorporation of an optical reflection sensor (e.g., sensor 16 or 86) for sample location detection (see col. 6, lines 26 – 67; col. 7, lines 1 – 9). Regarding claims 5, 13, 19, 98 and 101, Jehan teaches the incorporation of an associated positioning component (e.g., a function served by the sample acquisition system 18 & transport system 20) responsive to the optical reflection sensor (see col. 7, lines 10 – 56). Regarding claims 7, 8, 25 and 26, Jehan anticipates that the sample

magazine (16) typically forms a vertical stack, which is functionally equivalent to a rack or drawer for holding samples (see col. 5, lines 45 – 60). Regarding claims 9 and 27, Jehan teaches the incorporation of a bar code reader (see, e.g., col. 8, lines 20 – 39). Regarding claims 14 and 30, Jehan teaches the use of a processing means, such as a spectrometer, for processing or analyzing the sample supported on the sample nodes (see col. 9, lines 11 – 43; col. 12, line 39 – col. 15, line 26). Regarding claims 15, 31 and 99, Jehan teaches the incorporation of a controller, such as a system computer (500) (see col. 12, line 39 – col. 13, line 65). Regarding claims 21 and 24, Jehan teaches the incorporation of a sample node locator or sample sensor (150) or optical sensor (116) (see col. 7, lines 10 – 56; col. 8, lines 20 – 39). Regarding claim 22, Jehan anticipates that the punch mechanism is responsive to a sensing mechanism (see col. 9, lines 1 – 10). Regarding claims 63 and 77, as discussed above, Jehan teaches a system for sample archiving and analysis. Jehan also anticipates an associated method of preparing an archive sample for analysis, wherein the method comprises the steps of: receiving a request for related to an experiment, such as for spectrometry;; identifying a sample to be analyzed; responsive to the identifying step, ascertaining a location of the sample on a discrete sample node supported by a sample carrier: responsive to the ascertaining step, removing the discrete sample node from the sample carrier; and preparing the sample for analysis, such as by spectrometry (see col. 5, line 25 – col. 16, line 16). Regarding claims 64 and 78, Jehan teach that the step of identifying a sample to be analyzed utilizes a step of interrogating a data structure or computer (see, e.g., col. 12, lines 39 – 67). Regarding claim 65, 66, 79 and 80, Jehan

Art Unit: 1743

anticipates the use of an optical or bar code reader (see col. 12, lines 39 – 67).

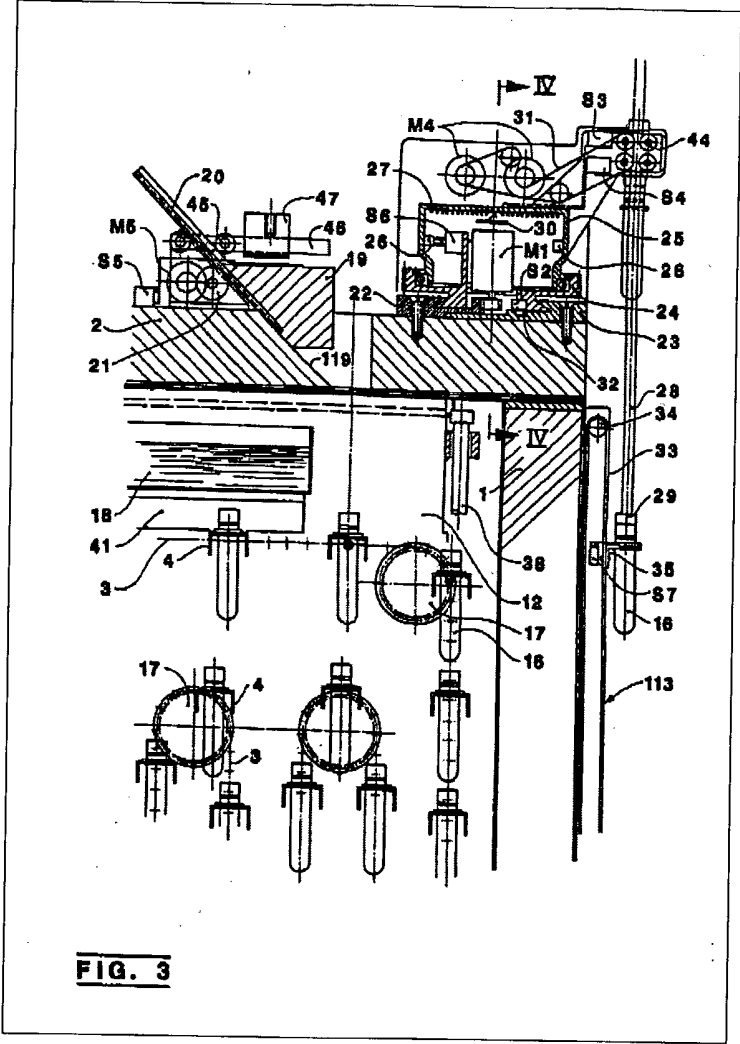
Regarding claims 70, 83 and 87, as discussed above, Jehan teaches the use of a sample node removal means comprising a mechanical clipping tool, such as a sample punch mechanism (22) (see col. 8, lines 40 – 67). Regarding claims 71 and 88, Jehan teaches the use of a sample container or cup (174) (see col. 9, lines 11 – 43).

Regarding claim 73, 74, 90 and 91, the method is employed in analyzing nonbiological and biological samples, such as photographic film and paper products, which contain wood fiber, respectively (see MPEP § 2144.03). Regarding claims 102 – 105, 107, 108, 114 and 115, as discussed above, Jehan teaches all of the structure of the apparatus provided in the claimed method, which merely recites the conventional operation of that apparatus. Regarding process or method claims, a prior art device anticipates a claimed process, if the device carries out the process during normal operation (see MPEP § 2112.02).

2. Claims 34, 36 – 38, 40 – 43, 45 – 49, 51 – 55 and 57 – 62 are rejected under 35 U.S.C. 102(b) as being anticipated by Knippscheer et al. (U.S. Pat. No. 5,125,240 A). Regarding claims 34, 38, 45, 46 and 55, Knippscheer et al. teach a method of archiving samples, wherein the method comprises the steps of: selectively transferring a specimen (e.g., contained in ampule 16) obtained from a source, to a plurality of discrete sample nodes (support bars 4) attached to a sample carrier (conveyor chains 3); archiving the sample carrier in an archive facility (container 18); and recording the location of the sample carrier in the archive facility utilizing a computer (CC1) (see col.

Art Unit: 1743

5, line 20 – col. 8, line 60; figures 1 – 3). Regarding claims 36, 37, 45, 53 and 54, Knippscheer et al. teach the use of barcoding indicia (see col. 2, lines 53 – 64; col. 9, lines 21 – 31). Regarding claims 40 and 57, the cryogenic process acts as a preservative agent for the samples (see col. 1, lines 15 – 37). Regarding claims 41 – 43 and 47 – 49, the process may be utilized to store biological samples, which are inherently anticipated to comprise protein, polynucleotide or DNA materials (see col. 1, lines 15 – 37) (see MPEP § 2112, see also MPEP § 2144.03). Regarding claim 51, since, for example, Knippscheer et al. teach that their disclosed process is utilized in archiving and storing frozen umbilical cord blood from individuals, it is inherently anticipated that consent would be required to obtain the specimens (see col. 15, line 58 – col. 19, lines 48) (see MPEP § 2112, see also MPEP § 2144.03). Regarding claim 52, it is inherently anticipated that the apparatus would be washed or sterilized prior to storing and archiving a biological sample in order to avoid the transmission of infectious diseases between patient samples (see MPEP § 2112, see also MPEP § 2144.03). Regarding claim 58, Knippscheer et al. teach the use of a computer, which utilizes a computer readable medium, such as a computer memory device, containing an executable instructional code in the executing of the methodology, as discussed above (see col. 10, lines 22 – 47). Regarding claims 59 – 62, Knippscheer et al. teach the transmission of information to and from remote device during operation at an archive facility, such as an information storage facility or a central computer facility via telephone, wireless or satellite communications (see col. 13, line 63 – col. 14, line 54).



***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
1. Claims 2, 10, 29, 33, 69, 86, 95, 100 and 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jehan in view of Rosenthal et al. (U.S. Pat. No. 5,516,487 A). Although Jehan does teach the use of a punch mechanism for acquiring samples for testing, Jehan does not specifically teach the incorporation of a laser cutting mechanism. However, Rosenthal et al. do teach the use of a laser cutting mechanism in sample preparation (see col. 3, lines 46 – 63; col. 5, lines 31 – 36). Therefore, as evidenced by Jehan and Rosenthal et al., a person of ordinary skill in the art would have recognized that both of these cutting mechanism are functional equivalents (see MPEP § 2144.06). The Courts have held that an express suggestion to substitute one equivalent component or process for another is not necessary to render such a substitution obvious. See *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982).

Furthermore, the Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). Consequently, a person of ordinary skill in the art would accordingly have had a reasonable expectation of success of incorporating the laser cutting mechanism disclosed by Rosenthal et al. with the system of Jehan for facilitating effective sample node removal.

2. Claims 23, 67, 68, 84 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jehan in view of Issacman et al. (U.S. Pat. No. 6,127,928 A). Jehan does not specifically teach the incorporation of transceiver with each of the sample nodes. Issacman et al. teach the use of RFID transceiver system in tracking objects. The use of RFID tags are considered functionally equivalent to other means of tracking the locations and identifications of objects, such as through the use of bar code indicia (see MPEP § 2144.06). The Courts have held that an express suggestion to substitute one equivalent component or process for another is not necessary to render such a substitution obvious. See *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). Furthermore, the Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). Consequently, a person of ordinary skill in the art would accordingly have had a reasonable expectation of success of incorporating the use of

Art Unit: 1743

an RFID transceiver tracking system, as taught by Issacman et al., with the system of Jehan, to facilitate effective sample node tracking.

3. Claims 35, 39, 44, 50 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knippscheer et al. Regarding claims 35, 39, and 56, Knippscheer et al. do not specifically teach a washing or desiccation or drying step. However, since Knippscheer et al. disclose that their system is utilized in storing biological specimens, such as human organs and umbilical cord segments, it would have been obvious to a person of ordinary skill in the art to incorporate a washing or desiccation step prior to sample transfer using the apparatus (see MPEP § 2144.03). Regarding claims 44 and 50, it would have been obvious to a person of ordinary that the disclosed method would be amenable to specimens containing nonbiological materials, such as buffer solutions (see MPEP § 2144.03).

4. Claims 72, 89 and 109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jehan. Jehan does not specifically teach a washing step. Jehan does teach that the disclosed system is utilized in analyzing photographic film and paper products. It would have been obvious to a person of ordinary skill in the art to incorporate a washing step for the sample prior to analysis in order to facilitate an accurate sample analysis (see MPEP § 2144.03).

***Allowable Subject Matter***

Claims 75, 76, 81, 82, 92 and 93 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The cited prior art neither teach nor fairly suggest the use of polynucleotide amplification in analyzing a sample comprising a polynucleotide. The cited prior art neither teach nor fairly suggest the incorporation of a detection step comprising obtaining video signals from an optical sensor.

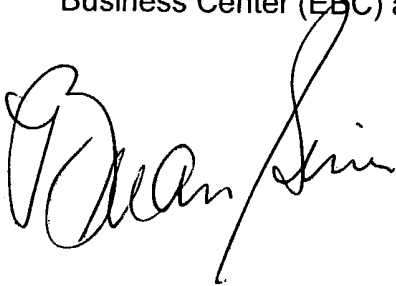
***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Kononen et al. teach tumor tissue microarrays for rapid molecular profiling. Rodgers et al. teach object identification with adaptive transceivers and methods of operation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines, Ph.D. whose telephone number is (571) 272-1263. The examiner can normally be reached on Monday - Friday (11 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Alan S. Sin", is written over the text of the Electronic Business Center (EBC) contact information.